REMARKS

Claims 1-4 are pending in the present application, claims 5-10 having been cancelled herein. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Applicant notes the indication that the election requirement was made final. Accordingly, Applicant has cancelled claims 5-10 without prejudice to file these claims in a Divisional Application.

The title is objected to as being non-descriptive. Applicant has amended the title to refer to the elected method. Withdrawal of the objection is respectfully requested.

Applicant has amended the specification to include the titles of various sections. In addition, the objection to claim 1 has been overcome by the current amendment to add the comma as requested.

Claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph. The Office Action asserted that the phrase "pressing said quantity of powder to obtain a slab of consistent materia" is confusing. Applicant has amended claim 1 to removed the word "consistent". Applicant respectfully submits that this overcomes this rejection and does not narrow the scope of the claims.

Claims 2 and 3 were rejected based on the phrase "at a pressure preferably between". The word "preferably" has been removed. Applicant respectfully submits that this overcomes this rejection. Applicant's amendments to the claims are not believed to be narrowing amendments which affect the scope of the claims. . Withdrawal of the objection is respectfully requested.

Claims 1-4 were rejected under 35 U.S.C. § 103 as being unpatentable over the prior art discussed on page 1 of the Applicant's specification in view of *Principles of Ceramics Processing* by Reed (*"Principles"*). This rejection is respectfully traversed for the following reasons.

The prior art in Applicant's specification discloses a method comprising precompacting a mass of powders to obtain a flat blank, wherein the precompacting stage is intended for deaerating the powder mass, but is not enough to ensure the surface stability of the precompacted blank. The precompacting stage according to this art allows a decoration layer to be applied on the blank, and the product to be subject to a final pressing action, which can be very fast because the powder mass already deaerated.

However, Applicant respectfully submits the precompacting stage according to the art in Applicant's specification does not provide a surface of the precompacted layer which has stability, and therefore the decoration is defective.

The stability (or instability) of the surface is due to the precompacting pressure and compaction. The Examiner acknowledges that no teaching is given by the art about the extent of the pressure and of the compaction. However, the Examiner is of the opinion that the *Principles* teach or suggest pressing pressures in line with the pressing pressure claimed.

Applicant respectfully submits this is incorrect, because *Principles* discloses only the pressing pressures suitable for the final compaction of the tile. *Principles* provides no teaching about the pressure required in a first precompaction stage to get a precompacted manufactured product, which is the precursor of the tile to be manufactured, to have adequate surface stability and be suitable for handling.

Fig. 22.6 referred to by the Examiner discloses a relationship between the punch pressure and the pressed density of a tile body. The ratio between Mpa and Kg /cm^2 is about 1 Mpa=10 Kg / cm^2, and the max pressure of the punch for tile composition is indicated as 40 Mpa (400 Kg/ cm^2); higher pressures will not improve sensibly the density, in other words, the compaction (see *Principles* page 426).

No indication is provided about a compaction suitable to get a body (the precursor of the tile) having enough mechanical characteristics to be handled without damage, or to have a surface with enough stability and in the same time allowing the layer of decorative powder to be intimately associated to the upper surface of the body.

The invention relates to the compaction of a tile in two steps, where any step is carried out by different means and in different locations. The first compacting step is well known to be intended for deaerating the powder, that is to allow the air trapped in the powder mass leave the mass. This is required to avoid tile defects while firing the tile.

In the known technique, the two steps are carried out by subjecting the powder contained in the cavity of a mold to the double action of the same punch that is operated in two strokes, the first for deaeration and the second for definitive compaction. This technique is not suitable for large dimension tiles, because of the difficulty for the trapped air to reach the side of the mold cavity to escape to the outside of the tile.

For large dimension tiles, e.g., larger that 500 x 500 mm, different methods are known in the art, comprising a first slight compaction intended for deaerating the powder, followed by a final separated hard compaction within a

proper mold. This is the prior art mentioned in the background section of the present application, and is disclosed in the WO 98/23424 a copy of which is submitted herewith.

The first compaction can be carried out both in continuous or stepped way, i.e., within a mold or on a moving conveyor. In both cases, the first compaction is not enough to give the tile a consistency, e.g., mechanical characteristics, suitable to allow handling of the tile, nor to give the upper surface of the compacted powder a stability such as to avoid reciprocal movement of the powders in the following steps, and therefore maintain the decoration without damage.

The statement that the art of Applicant's specification does not specifically disclose the amount of compaction and the pressing pressures is only in part correct, because actually the prior art does not disclose obtaining semi-manufactured products suitable for further decoration on a surface having stability, to be further compacted to a final product.

Principles does not give any hint as to the claimed pressing pressure suitable for the first stage of the claimed method. The Examiner asserts a reasoning based on the relationship between the change in thickness of the tile and the change in density. The Examiner's statement is correct but it does not relate to the mechanical strength of the precompressed tile and the pressing pressure in the first stage.

The only teaching one can derive from Fig. 22.6 is that the density under the maximum pressure is about two times the density before pressing. No conclusion can be reached about how large a pressing pressure is enough to get the expected results in terms of handling and surface stability.

In Fig. 22.6, the fill density is 40%, the max density is 77.5%; accordingly the thickness of pressed powders is more or less one half than the thickness of the powders before pressing. A pressure of about 400 kg/cm^2 results in a reduction of thickness of 50%. Claim 1 recites that the thickness is reduced to from 0.8% to 0.4% of the starting thickness. This occurs (claim 2) when pressing pressure rises respectively in the range from about 50 Kg/cm^2 to about 100 kg/cm^2. Applicant respectfully submits that there is no suggestion in Fig. 22.6 to elect the claimed pressing pressure and claimed thickness reduction. This ratio, reached at the claimed pressure, is not taught or fairly suggested by the cited art whether taken alone or in combination as proposed by the Examiner.

Applicant respectfully submits that the last statement of page 5 of the Office Action does not seem to have any relation to the pending claim 4. Claim 4 means that the orientation of the slab is modified to get its lateral sides parallel to the advancement direction. To clarify claim 4, it has been amended to recite that the orientation of the slab is adjusted relative to its direction of advancement such that a longitudinal axis of the slab coincides with the longitudinal axis of a carriage on which the slab is carried. This is not taught or disclosed in the cited art.

For at least these reasons, Applicant respectfully submits that claims 1-4 are patentable over the prior art of record, whether taken alone or in combination as proposed in the Office Action.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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